

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 1.28**WELDING INSPECTION REPORT****Resident Engineer:** Casey, William**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-030041**Date Inspected:** 17-Sep-2013**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1730**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site**CWI Name:** Bernie Docena, Tony Sherwood**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** SAS Tower**Summary of Items Observed:**

Caltrans Quality Assurance Inspector (QA) Joe Adame arrived at the American Bridge/Fluor (ABF) JV job site between the times noted above in order to monitor ABF Quality Control activities and the in process work being performed by ABF production personnel. The following items were observed:

ESW Repair Excavation Welding

RWR-201308-002

ESW N-043, Location "P"-Face A:

The QA Inspector observed ABF welder Donald Plumb (WID-0891) performing Shield Metal Arc Welding (SMAW) on the repair excavation on Electroslag Weld (ESW) "P", at face A. The locations and repair information are listed in Request for Weld Repair (RWR) 201308-002 from Ultrasonic Testing indications designated for repair. The repair locations were noted as:

(Y=3630mm~3900mm) L-270mm

W= 65mm

D= 50mm

Prior to welding, Mr. Plumb was observed preheating the weld to over 350° Fahrenheit prior to welding using the Miller ProHeat 35 with heat induction blankets and a propylene torch. The welder was using 4.0mm diameter electrode (E7018-1 HR4) per ABF Welding Procedure Specification (WPS) ABF-WPS-D15-1000-Repair Rev.3. The welding process in use was the Shielded Metal Arc Welding process (SMAW). ABF QC Inspector Bernie Docena was observed performing welding parameters verifications at random intervals throughout the shift. The welding parameters were verified at 180 amps with a Fluke 337 current Clampmeter and the preheat was verified with temperature indicators. The welding observed appeared to be in compliance with the WPS noted above.

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Tower Skirt Plate Splice Field Welds

North Shaft, South Shaft, West Shaft (Exterior)

ABF RFI- 003417R02

The QA Inspector observed ABF welders Wai Kit Lai (WID-2953), Rick Clayborn (WID-2773) and Mike Jimenez (WID-4671) performing Flux Cored Arc Welding (FCAW) on the Tower Skirt plate vertical weld joints #156 & 157 at the North, South and West Shafts. Skirt plate Pc. Mks. Were identified as: ED1-A435/SSD1-A683, SSD1-A434/SSD1-A683, and ESD1-A65/ESD1-A63 per the approved drawings. The vertical welding is being performed using Welding Procedure Specification (WPS) ABF-WPS-D15-2140-3 with 1.8mm diameter electrode (Innershield NR-232). The welding is also being facilitated by ABF RFI- 003417R02 which has allowed the contractor to use steel backing bar that will remain in place up to a maximum of 8mm root gap on the Partial Joint Penetration (PJP) welds. ABF QC Inspector Tony Sherwood informed the QA Inspector that any PJP root gap that exceed 5mm and is less than 8mm will have steel backing attached. The backing bar locations, dates of welding, and the specific welds completed by each welder are being tracked by ABF QC. The QA Inspector observed the preheat being maintained with propylene torches to approximately 250° Fahrenheit. ABF QC Inspectors Tony Sherwood and Bernie Docena were observed using Fluke 337 current Clampmeters and Tempilstick temperature indicators for welding parameters and preheat verifications. The QC Inspectors also performed 100% Magnetic Particle Testing (MT) of all root pass sections. The welding observed appeared to be in compliance with the WPS & RFI referenced above.



Summary of Conversations:

Only general conversations with ABF/JV QC NDT personnel relevant to work and testing performed during this shift.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Gary Thomas (916) 764-6027, who represents the Office of Structural Materials for your project.

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Inspected By: Adame,Joe

Quality Assurance Inspector

Reviewed By: Riley,Ken

QA Reviewer